

# Work Order ID 86019

June-19-12 4:04:06 PM

**\*86019\***

Page 1

Item ID: D3884-1

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Saddle, Inboard LH

Start Date: 19/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12/06/20 Tooling:

Date:

Run Start **\*NR1\***

QC:

Date: SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID Tool # Plan  
Code Accept Reject Reject Insp.  
Qty Qty Number Stamp

Draw Nbr

Revision Nbr

D3884

B

100

0.00

**\*100\***

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

Program Batch No. B86019

Double check by: \_\_\_\_\_

1-Machine Step No 1 per Folio FA818 and inspect per attached Dimension Sheets

2-Machine Step No 2 per Folio FA818 and inspect per attached Dimension Sheets

3-Machine Step No 3 per Folio FA818 and inspect per Dimension Sheets

0.00

B.A 12/10/17

4

1

110

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*110\***

QC

Quality Control

Memo

0.00

B.A 12/10/17

4

1

W/O: 86019		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3884-1 PAR #: \_\_\_\_\_ Fault Category: Machining NCR: Yes No QA: [Signature] Date: 12/10/27  
 Resolution: \_\_\_\_\_ Disposition: Scrap QA: N/C Closed: [Signature] Date: 12/10/29

NCR: 12-1964		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12-10-15	100	1 saddle is under tolerance dimension R 140-165 is .121 and part was run with +.015 offset and still came out to thin		→ Setup have been moved to HAAS 3 and added a note to folios of the 4 models to run exclusively on HAAS 3 or HAAS 4.	SL 12-10-15	D.A		DAS 12/10/17
		Machine error R.C. programming		ANDERK B 87493				
		→ HAAS 1 and HAAS 2 cannot read enough lines in advance to keep up with high feeds when profiling an angle resulting as overcuts and oval shapes		#218.66				

NOTE: Date & initial all entries

**Work Order ID 86019****\*86019\***

Page 2

June-19-12 4:04:06 PM

Item ID: D3884-1

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Saddle, Inboard LH

Start Date: 19/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

QC8- Inspect parts - second check

0.00

**\*120\***

QC

Memo

0.00

Quality Control

130

Chemical Conversion Coat per QSI005 4.1

0.00

**\*130\***

HandFinish

Memo

0.00

Hand Finishing

140

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

**\*140\***

Powdercoat

Memo

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

m122878

1:00  
3200 F  
1:304 12-10-18  
4X 12/10/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 86019

June-19-12 4:04:06 PM

**\*86019\***

Page 3

Item ID: D3884-1

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Saddle, Inboard LH

Start Date: 19/06/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 03/07/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID Tool # Plan Accept Reject Reject Insp.  
Code Qty Qty Number Stamp

150

QC3- Inspect Part Finish

0.00

**\*150\***

QC

Memo

0.00

Quality Control

4 12/10-18

160

Identify as per dwg & Stock Location: 431

0.00

**\*160\***

Packaging

Memo

0.00

Packaging

(4) 12/10/18 SP

170

QC21- Final Inspection - Work Order Release

0.00

**\*170\***

QC

Memo

0.00

Quality Control

12/10/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

June-19-12 4:04:10 PM

Page 1

Work Order ID: 86019

Parent Item: D3884-1

Parent Item Name: Saddle, Inboard LH

\*86019\*

\*D3884-1\*

Start Date: 19/06/2012

Required Date: 03/07/2012

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-017		Manufactured	No				Each	4.0000		4			

\*D6101-017\*

Saddle Billet

\*\*

PD 12/08/25

Location

Loc Qty

Loc Code

MAT047

4

74801

4

→ 87493

4 + 1 = 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	86019
<b>Description:</b> Saddle, Inboard, LH		<b>Part Number:</b>	D3884-1
<b>Inspection Dwg:</b> D3884	<b>Rev.</b> B	<b>Page 1 of 1</b>	

Inspect dimensions highlighted on inspection sheet drawing and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		0.652	0.652	0.652	0.652		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		0.259	0.259	0.259	0.259		
F	0.605	0.625		0.615	0.615	0.615	0.615		
G	1.120	1.130		1.1250	1.1250	1.1250	1.1250		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.001	2.001	2.0015	2.0015		
J	0.140	0.175		0.147	0.153	0.146	0.148		
K	1.265	1.285		1.268	1.2674	1.2668	1.2667		
L	0.115	0.135		0.131	0.125	0.125	0.125		
M	0.240	0.260		0.256	0.250	0.251	0.251		
N	0.110	0.140		0.140	0.140	0.140	0.140		
O	0.240	0.260		0.260	0.259	0.258	0.258		
P	2.826	2.886		2.870	2.870	2.870	2.870		
Q	0.178	0.198		0.188	0.188	0.188	0.188		
R	0.140	0.165		0.142	0.153	0.141	0.141		
S	0.720	0.780		0.750	0.750	0.750	0.750		
T	1.220	1.280		1.260	1.260	1.260	1.260		
U	1.245	1.255		1.250	1.250	1.250	1.250		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	2.495	2.505		2.500	2.500	2.500	2.500		
X	0.490	0.510		0.502	0.502	0.500	0.500		
Y	0.020	0.040		0.030	0.030	0.030	0.030		
Z	0.313	0.318		0.315	0.315	0.315	0.315		
AA	0.760	0.765		0.760	0.760	0.760	0.760		
AB	0.215	0.220		0.218	0.218	0.218	0.218		
AC	0.316	0.321		0.317	0.317	0.317	0.317		
AD	1.745	1.755		1.750	1.750	1.750	1.750		
AE	0.990	1.010		1.002	1.002	1.002	1.002		
AF									
Accept/Reject									

Measured by:	H.O.
Date:	12/10/17

Audited by:	SA
Date:	12/10/18

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

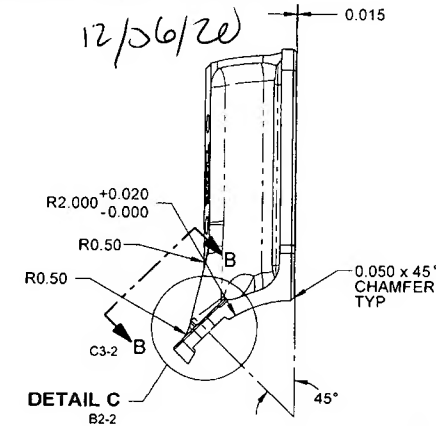
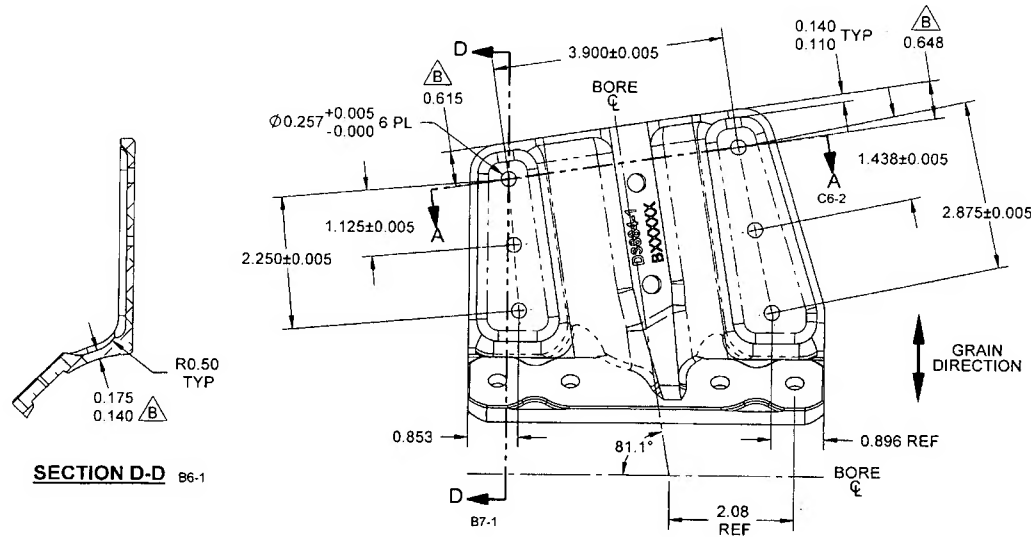
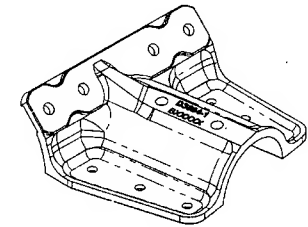
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 86019 MCT



SECTION D-D B6-1

D3884-1 SADDLE, INBOARD LH (SHOWN)  
D3884-2 SADDLE, INBOARD RH (OPPOSITE)

RELEASED  
07/15/14

NOTES:

- 1) MATERIAL: 7075-T7351 ALUMINUM PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS-QQ-A-250/12 (REF DART SPEC. D6101-017)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX. DEPTH OF 0.010 WITH A MIN. TOOL RAD OF R0.010
- 7) WEIGHT: 0.71 lbs

B	D6101-017 WAS D6102-017. ZN A6-1; ADD NOTE. ZN C4-2; ADD R0.031. ZN C2-2; INCREASED TOLERANCE 0.175 WAS 0.165. ZN B7-1; ADD 0.615. ZN C6-1; ADD 0.648. ZN C4-1; ADD 0.250. ZN D6-2; ADD 0.060. ZN C2-2; 0.75 WAS 0.65. ZN D7-2	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.		D3884	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		INBOARD SADDLE	NTS
DATE	09.06.30	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMERCE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

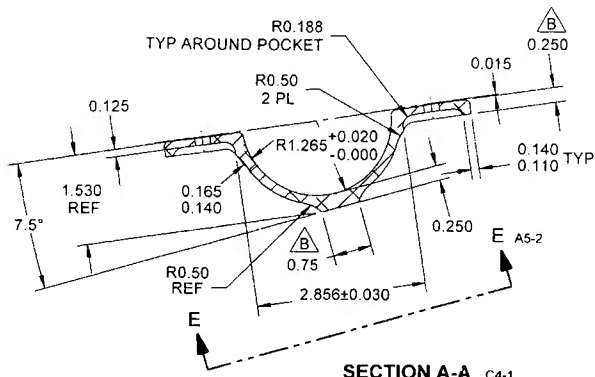
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

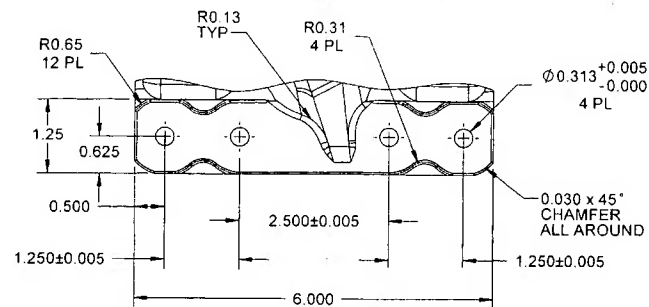
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

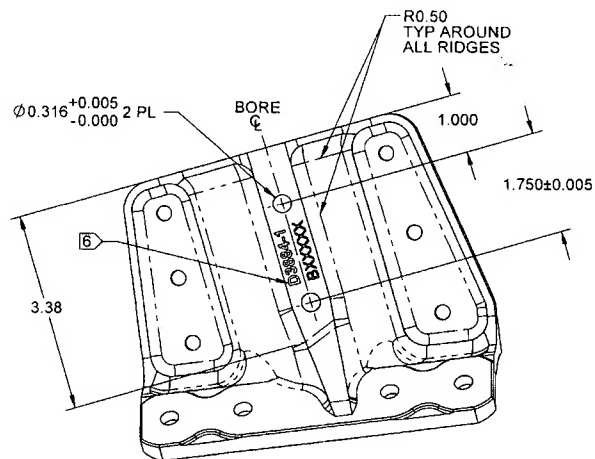
NOTE: Date & initial all entries



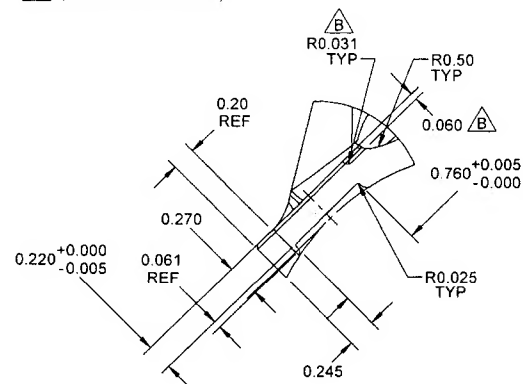
**SECTION A-A** C4-1



**VIEW B-B** B3-1  
(ROTATED FOR CLARITY)



**VIEW E-E** C6-2



**DETAIL C** B3-1  
SCALE 2X

**RELEASED**  
29/15/10

DESIGN	RF	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	RF	PORT HADLOCK, WA	
CHECKED	PH	DRAWING NO. <b>D3884</b>	REV. B
MFG. APPR.		SHEET 2 OF 2	
APPROVED		TITLE	SCALE
DE APPR.		<b>INBOARD SADDLE</b>	NTS
DATE	<b>09.06.30</b>	<small>COPYRIGHT © 2008 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries